



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/858,079	05/15/2001	Nigel M-F Cheung	10008017-1	2713

7590 11/24/2004
HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER

MENBERU, BENIYAM

ART UNIT PAPER NUMBER

2626

DATE MAILED: 11/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/858,079	CHEUNG, NIGEL M-F	
	Examiner	Art Unit	
	Beniyam Menberu	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☒ Claim(s) 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 May 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>05/15/01</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

On page 2, line 7, the phrase "turn on there light first" should be "turn on their light first.

On page 2, line 7, the phrase "the scanners that leave there" should be "the scanners that leave their".

On page 3, line 18, the term "measure" should be "measured".

Appropriate correction is required.

2. Claims 1 and 17 are objected to because of the following informalities:

The term "re-performing" is not a valid English word.

Appropriate correction is required.

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 104 in Figure 1; 106 in Figure 1; 108 in Figure 1; 109 in Figure 1. Corrected drawing sheets, or amendment to the specification to add the reference character(s) in the description, are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being

amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to because the axis in Figures 2,3, and 4 are not labeled accordingly. Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

5. Applicant is advised that should claim 14 be found allowable, claim 18 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 3, and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5907742 to Johnson et al in view of U.S. Patent No. 5369423 to Hunter et al.

Regarding claim 1, Johnson et al disclose a method of calibrating a scanner, comprising the steps of:

performing a full calibration scan (column 4, lines 22-32);

performing at least one partial calibration scan (column 7, lines 44-49);

However Johnson et al does not disclose a method of comparing the full calibration scan to the partial calibration scan and re-performing the full calibration scan when the

Art Unit: 2626

difference between the partial calibration scan and the full calibration scan is at least equal to a predetermined amount.

Hunter et al disclose a method of comparing the full calibration scan to the partial calibration scan (column 6, lines 65-68) and re-performing the full calibration scan when the difference between the partial calibration scan and the full calibration scan is at least equal to a predetermined amount (column 7, lines 1-5).

Johnson et al and Hunter et al are combinable because they are in the similar problem area of image scanner calibration.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the method of full and partial calibration method taught by Johnson et al with the method of calibration comparison and recalibration as taught by Hunter et al to implement an accurate image scanner calibration method.

The motivation to combine the reference is clear because calibration will become more accurate by performing comparison with full calibration result and recalibrating if necessary as taught by Hunter et al.

Regarding claim 3, Hunter et al disclose a method of claim 1 where the partial calibration scan does not turn off the scanner lamp (Hunter et al monitor intensity of light during the partial calibration implying that the light is turned on during this operation (column 6, lines 55-57).).

Regarding claim 4, Hunter et al disclose a method of claim 1 where the partial calibration scan is done periodically (column 3, lines 4-9).

8. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5907742 to Johnson in view of U.S. Patent No. 5369423 to Hunter et al further in view of U.S. Patent Application Publication No. US 2001/0030774 A1 to Bromley.

Regarding claim 2, Johnson in view of Hunter et al teach all the limitations of claim 1. However, Johnson in view of Hunter et al does not disclose a method of claim 1 where the partial calibration scan does not move the scan head.

Bromley discloses a method of claim 1 where the partial calibration scan does not move the scan head (page 3, paragraph 58).

Johnson, Hunter et al, and Bromley are combinable because they are in the similar problem area of image scanner calibration.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the method of partial calibration without moving the scan head with the calibration method of Johnson in view of Hunter et al to implement a fast and efficient image scanner calibration.

The motivation to combine the reference is clear because having the image scanner head stationary during calibration as taught by Bromley can save some time during the calibration phase of image scanning.

9. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5907742 to Johnson in view of U.S. Patent No. 5369423 to Hunter et al further in view of U.S. Patent No. 5506695 to North.

Regarding claim 5, Johnson in view of Hunter et al teach all the limitations of claim 4. However, Johnson in view of Hunter et al does not disclose a method of claim 4 where the period between partial calibration scans is based on time.

North discloses a method of claim 4 where the period between partial calibration scans is based on time (column 2, lines 51-54).

Johnson, Hunter et al, and North are combinable because they are in the similar problem area of image scanner calibration.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to implement periodical calibration based on time as taught by North into the method of scanner calibration taught by Johnson in view of Hunter et al to implement an efficient scanner calibration method.

The motivation to combine the reference is clear because it will be simple and convenient to program a scanner to calibrate at certain times in a periodic manner.

10. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5907742 to Johnson in view of U.S. Patent No. 5369423 to Hunter et al further in view of U.S. Patent No. 5153745 to Brandkamp et al.

Regarding claim 6, Johnson in view of Hunter et al teach all the limitations of claim 4. However, Johnson in view of Hunter et al does not disclose a method of claim 4 where the period between partial calibration scans is based on temperature.

Brandkamp et al disclose a method of claim 4 where the period between partial calibration scans is based on temperature (column 4, lines 36-42).

Johnson, Hunter et al, and Brandkamp et al are combinable because they are in the similar problem area of image scanner calibration.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the temperature based periodical calibration of Brandkamp et al with the calibration method taught by Johnson in view of Hunter et al to implement an efficient calibration method for image scanners.

The motivation to combine the reference is clear because temperature of the scanning system is not stable (Brandkamp et al: column 4, lines 36-38) and thus it has to be compensated for.

11. Claims 7, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5907742 to Johnson et al in view of U.S. Patent No. 5369423 to Hunter et al further in view of U.S. Patent No. 6518587 to Rombola.

Regarding claim 7, Johnson et al discloses a method of calibrating a scanner comprising the steps of:

performing a full calibration scan (column 4, lines 22-32);

performing at least one partial calibration scan (column 7, lines 44-49);

However Johnson et al does not disclose a method of comparing the full calibration scan to the partial calibration scan and adjusting the gains globally for the full calibration scan when the difference between the partial calibration scan and the full calibration scan is less than a predetermined amount.

Hunter et al disclose a method of comparing the full calibration scan to the partial calibration scan (column 6, lines 65-68).

Rombola discloses a method for adjusting the gains globally for the full calibration scan when the difference between the partial calibration scan and the full calibration scan is less than a predetermined amount (column 3, lines 45-49).

Johnson et al and Hunter et al and Rombola are combinable because they are in the similar problem area of image scanner calibration.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the gain adjusting method taught by Rombola and the calibration comparison method taught by Hunter et al with the calibration method taught by Johnson et al to implement an accurate image scanner calibration method.

The motivation to combine the reference is clear because using gain can correct non-uniform behaviors of scanning system as taught by Rombola (column 3, lines 1-5) and calibration comparison taught by Hunter et al is necessary to implement an accurate calibration method.

Regarding claim 9, Hunter et al in view of Rombola teach all the limitations of claim 7. Further Hunter et al disclose a method of claim 7 where the partial calibration scan does not turn off the scanner lamp (Hunter et al monitor intensity of light during the partial calibration implying that the light is turned on during this operation (column 6, lines 55-57)).

Regarding claim 10, Hunter et al in view of Rombola teach all the limitations of claim 7. Further Hunter et al disclose a method of claim 7 where the partial calibration scan is done periodically (column 3, lines 4-9).

12. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5907742 to Johnson in view of U.S. Patent No. 5369423 to Hunter et al further in view of U.S. Patent No. 6518587 to Rombola further in view of U.S. Patent Application Publication No. US 2001/0030774 A1 to Bromley.

Regarding claim 8, Johnson in view of Hunter et al further in view of Rombola teach all the limitations of claim 7. However, Johnson in view of Hunter et al further in view of Rombola does not disclose a method of claim 7 where the partial calibration scan does not move the scan head.

Bromley discloses a method of claim 7 where the partial calibration scan does not move the scan head (page 3, paragraph 58).

Johnson, Hunter et al, Rombola and Bromley are combinable because they are in the similar problem area of image scanner calibration.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the method of partial calibration without moving the scan head with the calibration method of Johnson in view of Hunter et al further in view of Rombola to implement an efficient scanner calibration method.

The motivation to combine the reference is clear because having the image scanner head stationary during calibration as taught by Bromley can save some time during the calibration phase of image scanning.

13. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5907742 to Johnson in view of U.S. Patent No. 5369423 to Hunter et al

further in view of U.S. Patent No. 6518587 to Rombola further in view of U.S. Patent No. 5506695 to North.

Regarding claim 11, Johnson in view of Hunter et al further in view of Rombola teaches all the limitations of claim 10. However, Johnson in view of Hunter et al further in view of Rombola does not disclose a method of claim 10 where the period between partial calibration scans is based on time.

North discloses a method of claim 10 where the period between partial calibration scans is based on time (column 2, lines 51-54).

Johnson, Hunter et al, Rombola and North are combinable because they are in the similar problem area of image scanner calibration.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the method of partial calibration scans based on time with the calibration method of Johnson in view of Hunter et al further in view of Rombola to implement a periodic partial scan method.

The motivation to combine the reference is clear because it will be simple and convenient to program a scanner to calibrate at certain times in a periodic manner.

14. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5907742 to Johnson in view of U.S. Patent No. 5369423 to Hunter et al further in view of U.S. Patent No. 6518587 to Rombola further in view of U.S. Patent No. 5153745 to Brandkamp et al.

Regarding claim 12, Johnson in view of Hunter et al further in view of Rombola teaches all the limitations of claim 10. However, Johnson in view of Hunter et al further

in view of Rombola does not disclose a method of claim 10 where the period between partial calibration scans is based on temperature.

Brandkamp et al disclose a method of claim 10 where the period between partial calibration scans is based on temperature (column 4, lines 36-42).

Johnson, Hunter et al, Rombola and Brandkamp et al are combinable because they are in the similar problem area of image scanner calibration.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the temperature based periodic calibration scan of Brandkamp et al with the calibration method of Johnson in view of Hunter et al further in view of Rombola to implement an efficient scanner calibration method.

The motivation to combine the reference is clear because temperature of the scanning system is not stable (Brandkamp et al: column 4, lines 36-38) and thus it has to be compensated for.

15. Claims 13, 14, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5907742 to Johnson et al in view of U.S. Patent Application Publication No. US 2001/0030774 A1 to Bromley further in view of U.S. Patent No. 5369423 to Hunter et al.

Regarding claims 13, Johnson et al disclose a method of calibrating a scanner, comprising the steps of:
performing a full calibration scan and storing the results as a reference scan (column 4, lines 22-32). Further Johnson et al disclose a method for performing a PRNU

Art Unit: 2626

calibration scan and storing the results as a reference scan (column 7, lines 67; column 8, lines 1-3).

However, Johnson et al does not disclose a method of performing at least one partial calibration scan without moving the scan head, comparing the reference scan to the partial calibration scan, and performing a PRNU calibration scan and storing the results as a reference scan when the difference between the partial calibration scan and the reference scan is at least equal to a predetermined amount.

Hunter et al discloses a method of comparing the reference scan to the partial calibration scan (column 6, lines 65-68) and recalibrate when the difference between the partial calibration scan and the full calibration scan is at least equal to a predetermined amount (column 7, lines 1-5).

Bromley discloses a method where the partial calibration scan does not move the scan head (page 3, paragraph 58).

Johnson et al, Hunter et al and Bromley are combinable because they are in the similar problem area of image scanner calibration.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the method of calibration without moving the scan head as taught by Bromley and the method of PRNU and full calibration scan as taught by Johnson et al with the calibration method of Hunter et al to implement an efficient scanner calibration method that takes into account the non-uniformity of light in a scanning system.

The motivation to combine the reference is clear because having the scan head stationary as taught by Bromley can save calibration time. Further the comparison performed by Hunter et al can provide an accurate scanner calibration method.

Regarding claim 14, Hunter et al in view of Bromley further in view of Johnson et al teach all the limitations of claim 13. Further Hunter et al disclose a method of claim 13 where the partial calibration scan is done periodically (column 3, lines 4-9).

Regarding claim 17, Hunter et al in view of Bromley further in view of Johnson et al disclose a method of calibrating a scanner, comprising the steps of:
performing a PRNU calibration scan and storing the results as a reference scan (Johnson et al : column 7, lines 67; column 8, lines 1-3);
performing at least one partial calibration scan without moving the scan head (Bromley: page 3, paragraph 58;
comparing the reference scan to the partial calibration scan (Hunter et al: column 6, lines 65-68) ;
re-performing the PRNU calibration scan when the difference between the partial calibration scan and the reference scan is at least equal to a predetermined amount (Hunter et al: (column 7, lines 1-5); Johnson et al : column 7, lines 67; column 8, lines 1-3).

16. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5907742 to Johnson et al in view of U.S. Patent No. 5369423 to Hunter et al further in view of U.S. Patent Application Publication No. US 2001/0030774 A1 to Bromley further in view of U.S. Patent No. 6518587 to Rombola.

Regarding claim 15, Johnson et al discloses a method of calibrating a scanner comprising the steps of:

performing a full calibration scan and storing the results as a reference scan(column 4, lines 22-32);

performing at least one partial calibration scan (column 7, lines 44-49);

However Johnson et al does not disclose a method of partial calibration scan without moving the scan head, comparing the full calibration scan to the partial calibration scan and adjusting the gains globally for the full calibration scan when the difference between the partial calibration scan and the full calibration scan is less than a predetermined amount.

Hunter et al disclose a method of comparing the reference scan to the partial calibration scan (column 6, lines 65-68).

Rombola discloses a method for adjusting the gains globally for the full calibration scan when the difference between the partial calibration scan and the full calibration scan is less than a predetermined amount (column 3, lines 45-49).

Bromley discloses a method where the partial calibration scan does not move the scan head (page 3, paragraph 58).

Johnson et al, Hunter et al, Bromley and Rombola are combinable because they are in the similar problem area of image scanner calibration.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the method calibration without moving the scan head as taught by Bromley, the method of gain adjustment taught by Rombola, the comparison

method of Hunter et al with the calibration method of Johnson et al to implement an accurate and efficient scanner calibration method.

The motivation to combine the reference is clear because having the scan head stationary as taught by Bromley can save calibration time. Further using gain adjustment can correct non-uniform behaviors of scanning system as taught by Rombola (column 3, lines 1-5) and using the comparison method taught by Hunter et al will provide for an accurate calibration method.

Regarding claim 16, Hunter et al in view of Bromley further in view of Rombola teach all the limitations of claim 15. Further Hunter et al disclose a method of claim 15 where the partial calibration scan is done periodically (column 3, lines 4-9).

Other Prior Art Cited

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 5541645 to Davis discloses a system for determining time periods for channels inside scanners.

U.S. Patent No. 5237172 to Lehman et al discloses a color scanner with calibration.

U.S. Patent Application Publication No. US 2002/0097446 A1 to Lee discloses an apparatus and method for dark calibration.

U.S. Patent No. 4996605 to Taniguchi et al discloses an apparatus and method for image scanning.

Art Unit: 2626

U.S. Patent No. 5404232 to Selby discloses a calibration system used for raster input scanners.

U.S. Patent Application Publication No. US 2002/0140996 A1 to Spears et al discloses image scanning with pre-scan and post-scan capabilities.

U.S. Patent Application Publication No. US 2002/0122213 A1 to Hill et al discloses a system for correction to image scanning due to debris and low output photosensors.

U.S. Patent No. 4605970 to Hawkins discloses a method and apparatus for calibrating a document digitizer.

U.S. Patent No. 6327047 to Motamed discloses automatic calibration for scanners.

U.S. Patent No. 6462772 to Bryant discloses method for calibrating film scanners.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Beniyam Menberu whose telephone number is (703) 306-3441. The examiner can normally be reached on 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly Williams can be reached on (703) 305-4863. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2626

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the customer service office whose telephone number is (703) 306-5631. The group receptionist number for TC 2600 is (703) 305-4700.

Patent Examiner

Beniyam Menberu

BM

11/04/2004



KIMBERLY WILLIAMS
SUPERVISORY PATENT EXAMINER